

WHAT IS CLAIMED IS:

1. A method for learning an initial value of hydraulic pressure for upshift control of an automatic transmission of a vehicle having an engine connected to the automatic transmission, the method comprising:

5 calculating a turbine torque of the automatic transmission;
 starting upshift control of the automatic transmission;
 detecting a shift begin point of the automatic transmission;
 calculating a torque phase period;
 determining whether the torque phase period is greater than a predetermined
10 time limit;
 calculating a forced adjusting value when the torque phase period is greater
 than the predetermined time limit; and
 learning the initial value of hydraulic pressure based on the forced adjusting
15 value.

2. The method of claim 1, wherein the predetermined time limit is preset as a
function of the turbine torque and a vehicle speed of the vehicle.

3. The method of claim 2, wherein the predetermined time limit increases as the
20 turbine torque increases.

4. The method of claim 2, wherein the predetermined time limit increases as the
 vehicle speed increases.

25 5. The method of claim 1, wherein the forced adjusting value is calculated as a
 predetermined ratio of a current learned value of the initial value of hydraulic pressure
 when the torque phase period is greater than the predetermined time limit by more than
 a predetermined deviation.

30 6. The method of claim 1, wherein learning the initial value of hydraulic pressure
 comprises adding the forced adjusting value to a current learned value of the initial
 value of hydraulic pressure and the forced adjusting value.

7. The method of claim 6, further comprising storing the initial value of hydraulic pressure such that the initial value of hydraulic pressure may be retrieved for subsequent upshift control of the automatic transmission.

5 8. The method of claim 7, further comprising retrieving the initial value of hydraulic pressure for subsequent upshift control of the automatic transmission.

9. The method of claim 8, further comprising maintaining a torque phase period at an appropriate level in accordance with a running state of a vehicle.

10 10. The method of claim 9, further comprising reducing the torque phase period.

11. An apparatus for learning an initial value of hydraulic pressure for upshift control of an automatic transmission of a vehicle having an engine connected to the automatic transmission, the apparatus comprising:

a throttle opening detector for detecting a throttle valve opening of the engine;
15 a vehicle speed detector for detecting a vehicle speed of the vehicle;
a turbine speed detector for detecting a turbine speed of the automatic transmission; and

a transmission control unit for controlling the automatic transmission in response to signals from the throttle opening detector and the turbine speed detector,

20 wherein the transmission control unit executes a program comprising instructions for:

calculating a turbine torque of the automatic transmission;
starting upshift control of the automatic transmission;
detecting a shift begin point of the automatic transmission;
25 calculating a torque phase period;
determining whether the torque phase period is greater than a predetermined time limit;
calculating a forced adjusting value when the torque phase period is greater than the predetermined time limit; and
30 learning the initial value of hydraulic pressure based on the forced adjusting value.

12. The apparatus of claim 11, wherein the predetermined time limit is preset as a function of the turbine torque and the vehicle speed.

5 13. The apparatus of claim 12, wherein the predetermined time limit increases as the turbine torque increases.

14. The apparatus of claim 12, wherein the predetermined time limit increases as the vehicle speed increases.

10 15. The apparatus of claim 11, wherein the forced adjusting value is calculated as a predetermined ratio of a current learned value of the initial value of hydraulic pressure when the torque phase period is greater than the predetermined time limit by more than a predetermined deviation.

15 16. The apparatus of claim 11, wherein the learning the initial hydraulic pressure adds the forced adjusting value to a current learned value of the initial hydraulic pressure and the forced adjusting value.

20 17. The apparatus of claim 16, wherein the learning the initial hydraulic pressure adds the forced adjusting value to a current learned value of the initial hydraulic pressure and the forced adjusting value.